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ART 34 AMDT

CLAIMS

1. A charging system in a packet switched network for charging packets
5 differently dependent on which service flow the packets belong to,
the charging system comprising a control system (201) and a serving
element (206) residing in a packet forwarding system (210) is
characterised in that said control system (201) comprises an
account function (203) adapted to manage an account of at least one
10 user and a charging policy decision point (202) arranged to calculate
a charging policy for allowed services for the at least one user, and
that said serving element (206) comprises a token bucket (208) per
user adapted to store reservations received from the account
15 function (203) of the user associated with the token bucket (208) and
a charging policy enforcement point (207) arranged to perform
charging for a plurality of the allowed services by reducing the stored
reservation of the token bucket (208) according to the calculated
charging policy.
- 20 2. The charging system according to claim 1, wherein the serving
element comprises a single token bucket per user.
3. The charging system according to any of claims 1-2, wherein the
25 calculated charging policy comprises at least one user rating table
and a set of validity conditions.
4. The charging system according to the previous claim, wherein the
30 charging policy is calculated based on historical and/or current user
specific usage data.
5. The charging system according to any of claims 3-4, wherein the set
of validity conditions defines the lifetime of the at least one user
rating table.

6. The charging system according to any of claims 3-5, wherein the calculated charging policy comprises at least two user rating tables having different time validity conditions.
- 5 7. The charging system according to any of claim 1-6, wherein the serving element comprises means for classifying the services into different service classes based on the tariff plan of the services.
8. The charging system according to the previous claim, wherein the
10 allowed subscriber service classes are stored in a Service Class Vector.
9. The charging system according to any of claims 1-8, wherein the
15 means for classifying the services into different service classes comprises a service filter adapted to identify the different service flows.
10. The charging system according to the previous claim, wherein the
20 means for classifying the services into different service classes further comprises Protocol Inspection Filters adapted to identify the different service flows, when the service filter is not capable of said identification.
11. The charging system according to any of claims 1-10, wherein the
25 packet forwarding system is a Gateway GPRS Support Node in a mobile telecommunication network.
12. A control system (201) of a charging system in a packet switched
30 network comprising an account function (203) adapted to manage an account of at least one user **characterised in** that said control system comprises a charging policy decision point arranged to calculate a charging policy for the allowed services for the at least one user.

13. The control system according to claim 12, wherein the calculated charging policy comprises at least one user rating table and a set of validity conditions.
- 5 14. The control system according to previous claim, wherein the charging policy is calculated based on historical and/or current user specific usage data.
- 10 15. The control system according to any of claims 13-14, wherein the set of validity conditions defines the lifetime of the at least one user rating table.
- 15 16. The control system according to any of claims 13-15, wherein the calculated charging policy comprises at least two user rating tables having different time validity conditions.
- 20 17. The control system according to any of claims 12-16, wherein the control system is implemented in a mobile telecommunication network.
- 25 18. A serving element (206) residing in a packet forwarding system of a charging system in a packet switched network (210) **characterised in** that said serving element (206) comprises means for receiving reservations for at least one user, a token bucket (208) per user adapted to store the reservations for the user associated with the token bucket, means for receiving a charging policy for allowed services, and a charging policy enforcement point (207) arranged to perform charging for a plurality of the allowed services by reducing the stored reservation of the token bucket (206) according to the received calculated charging policy.
- 30 19. The serving element according to claim 18, wherein the serving element comprises a single token bucket per user.

20. The serving element according to any of claims 18-19, wherein the charging policy comprises at least one user rating table and a set of validity conditions.
- 5 21. The serving element according to previous claim, wherein the charging policy is calculated based on historical and/or current user specific usage data.
- 10 22. The serving element according to any of claims 20-21, wherein the set of validity conditions defines the lifetime of the at least one user rating table.
- 15 23. The serving element according to any of claims 20-22, wherein the charging policy comprises at least two user rating tables having different time validity conditions.
- 20 24. The serving element according to any of claim 18-23, wherein the serving element comprises means for classifying the services into different service classes based on the tariff plan of the services.
- 25 25. The serving element according to the previous claim, wherein the allowed subscriber service classes are stored in a Service Class Vector.
- 30 26. The serving element according to any of claims 24-25, wherein the means for classifying the services into different service classes comprises a service filter adapted to identify the different service flows.
27. The serving element according to the previous claim, wherein the means for classifying the services into different service classes further comprises Protocol Inspection Filters adapted to identify the different service flows, when the service filter is not capable of said identification.

28. The serving element according to any of claims 18-27, wherein the packet forwarding system is a Gateway GPRS Support Node in a mobile telecommunication network.

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29. An interface (1) **characterised in** that it is connectable to a charging policy decision point (202) of the control system (201) according to any of claims 12-17 and the charging enforcement point (207) of the serving element (206) according to any of claims 18-28 adapted to transfer a charging policy.

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30. An interface (2) **characterised in** that it is connectable to the account function (203) of the control system (201) according to any of claims 12-17 and the token bucket (208) of the serving element (206) according to any of claims 18-28 adapted to transfer reservations from the account function (203) to the token bucket (208).

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